

## Future of Health Technology Symposium

Presentation by:

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### **Robert Martin:**

It's a real pleasure to be here this morning and I'd like to add our welcome to that of Jay's to all of you. It's a real privilege for the National Center for Public Health Informatics to be sharing and co-sponsoring this exciting event. I think today, hearing from the speakers that are on the cutting edge, is going to be very interesting for us. And at the same time we're hearing from speakers about cutting-edge technologies and how it could impact health. One of the challenges for us is we're living through this. One of the comments I heard this morning as I was being introduced to a few of the speakers was, this is a great facility here. Actually I was walking over here this morning from the parking deck in building 16 a little after 7:30 and just looking around this campus. This is very futuristic. I was here as a student in 1976 and this in no way resembles the CDC of 1976. The reason I bring that up is something that Jay said at the end about what the public expectation is. The public, when they look at CDC, they have very high expectations. They expect us to be on the cutting edge, not only of issues related to infectious disease but in issues related to health marketing and how informatics and computer technology affects their health. So what we're doing here today is really important and I commend all of you for being here and hope many of our colleagues elsewhere will be able to see this on IPTV.

So this photograph here, the cartoon, the Jetsons, represents a really futuristic view of how we would live in the 21<sup>st</sup> century, and that was developed, of course, many years ago. Some of us grew up with this cartoon. And although we don't have flying cars other than around 285, we really are living in an exciting time and lots of technology coming along that impacts our lives on a daily basis. We couldn't have envisioned cell phones the way they exist now, the size they are, the capabilities they have. We certainly couldn't have envisioned the Internet, except for a few people. And certainly if you think about even something as simple as word processing and what some of us went through in developing our master's thesis or doctoral thesis or other publications back in the 1970's, it's just a huge, huge magnitudes of change in not only how we actually do that word processing but how we do the research, how we get the information. As I said earlier, sometimes when we're living through that period it's very difficult to appreciate those changes that have come up.

So like Jay, I would like to talk a little bit about the National Center for Public Health Informatics. Jay mentioned that we're located in the Coordinating Center for Health Information and Services but we have one other national center associated with our coordinating center and that is the National Center for Health Statistics that's located in Hyattsville, Maryland. Many of you are familiar with NCHS. That center has been

around for a long time. Prior to coming to CDC they were located at NIH and they're known for doing a wide variety of health surveys, the national health and nutrition survey is one of their major claims to fame but they have many other surveys that contribute to an overall understanding of health care in the U.S. Jay has already talked about the National Center for Health Marketing and as I said, I'm going to say a few words about Informatics.

So what is public health informatics? Public health informatics has been defined as the systematic application of information and computer science and technology to public health practice research and learning. And clearly this area of health informatics is extremely important. There are departments of health informatics at universities, hospitals, and clinicians utilize informatics. And even here at CDC we have been utilizing informatics for many years. The use of that technology has become clear that like health marketing, we need a focal point at an organization this size to help us define how we're going to utilize health informatics. So what does our center do? It provides national leadership in these areas. In developing and promoting the science of public health informatics we actually work with a variety of centers of excellence around the country. For example, we have relationships with Harvard, University of Washington, John's Hopkins, and a number of other universities, the Mayo Clinic. And these organizations, these academic institutions help us stay on the cutting edge of technology and help us advance the science that will be important to us with regard to supporting the necessary research and workforce basis, the growing discipline. We support state and local health departments with technical assistance to enable them to begin to get up to speed to utilize health information technology. And establishing strong partnerships and facilitating coordinated activities. I mentioned that we work with state and local health departments and with academic institutions but we also work very closely with professional organizations like the American Medical Informatics Association, but with organizations that represent public health as well, ASTHO, NACCHO and APHL. And ensuring strong representation for public health in all national health IT initiatives. We've very involved in nationwide activities right now addressing health information technology. We work closely with the Department of Health and Human Services and the Secretary's Office on health IT issues. These are becoming extremely important. We've heard a lot about the increasing cost of health care. Just the other day I was talking to a couple of people and one of them cited, and I don't have the exact reference, but Starbucks as an example spends more on health care for their employees than they do on coffee. I think we all know the statistics from our automotive companies that they spend more on health care per employee than they do on the steel that makes the car. So these are huge issues for our country and as a result of that the Department of Health and Human Services is taking some real initiative to advance issues around informatics and the use of health IT in health care. So we are, as I said, working closely with them. Dr. Gerberding is one of the leaders in this area. She is leading the population health work group that is in the American Health Information Community. The American Health Information Community, or AHIC, is the federal advisory committee that is providing input to this process. Dr. Gerberding, as I said, sits on one committee, myself and Ed Sondik are members of those committees and provide input from CDC.

So what is our vision of the future at NCPHI; how are we going to work both internally with our partners here and externally with partners? First of all, we believe we have a role in enterprise coordination. As I mentioned earlier, there are many applications that are being used around CDC but because of the need to be able to exchange information not only within our organization but with other federal organizations with our state partners we're going to have to start paying more attention to issues like standards. So we are going to be working with our colleagues here and externally on coordination of activities related to standards development leveraging external expertise; as I mentioned earlier, working with academic institutions and professional organizations and our state and local partners, dealing with applied public health informatics. I mentioned the work with state and local health departments. In order to get them up to speed we have to work closely with them in trying to influence what they do but partner with them so that they have a role in developing how they will use health informatics. The Public Health Institute located here in Atlanta, David Ross is the executive director of that, is working very closely with states right now in development of a very generic model they can use and we're also working with Dave on that. I mentioned communication collaboration a number of times as well as the importance of science and research related to informatics.

So with regard to just a couple of issues I'd like to highlight. The issues around the work at HHS relate to health information technology and electronic health records and personal health records. It's envisioned at this point that probably in about 15 years, maybe less, each of us will have an electronic personal health record, and it may be a card like this and that card will be a secure card. It will be a universal attribute; in other words, everyone in this country will have a personal health record and this will be portable. If you think about what the benefits are and as long as we have the appropriate privacy and security issues addressed, I know of few institutions for example, the Department of Defense and their hospitals as well as the VA system that have developed electronic health records, these have revolutionized the way physicians are practicing medicine. They no longer have to rely on what the patient tells them, they actually have an electronic record in front of them, they know what medications patients are on; they don't have to rely on the patients' memory. So this becomes very important for individual health as well as for public health. So if you think about aggregate information being available to public health from electronic health records, you can see how that would benefit our knowledge of many different diseases, if you will, that affect us currently like hypertension, heart disease. Right now we depend on individual studies at academic centers but if we have information available on an aggregate setting, and again with appropriate access, security, privacy, these kinds of data could really influence how we address public health in the future.

Real time disease detection and interruption. The BioSense program is in our center and we also do a lot with GIS capabilities. One of our employees just came back from Kenya where they were working on Rift Valley Fever and using GIS to track the spread of disease not only animals, but in humans. But clearly technology like this can be used not only for infectious disease but can be used in national disasters as well. For

example, an event like Hurricane Katrina, GIS capabilities and the ability to monitor where facilities are, for example, something as simple as that could be very important.

So CDC is a player with all of these areas right now. Of course with the medical care system, with doctors and patients, we work closely with hospitals and health departments around the country. We address rare events and disasters, we work closely with laboratories and pharmacies and we do that through these various organizations that are represented here. NPIN is the national health information network that part of HHS, the public health information network, and so on. These are all important contributors to how we might understand better public health in the future and clearly all of these kinds of interactions are going to rely on technology, better technology and the use of informatics. So Jay mentioned science is a critically important area for CDC, and that of course is correct, so what are we doing in the area that would be considered hard science. The early event detection; we're looking at algorithms that will help us move that detection time of infectious disease for example, down closer to the patient level. In other words, not waiting until we see reports coming in from state health departments but actually see patients who are arriving with certain signs and symptoms at emergency rooms or at physicians' offices. If you think about the concept of RHIO, regional health information organizations, that are being developed around the country, we're actually partnering through many of our academic centers to work closely with those RHIO's to ensure that they're engaged with public health to be able to access that kind of health care information very quickly. I mentioned geographic information systems and our work there. I want to keep emphasizing, as Jay has, the importance of communication issues and collaboration with our outside partners and these other areas that are very important to us as well, the knowledge management and decision support.

So I think with that – that's sort of a broad outline of what our center does. We're very excited to be, those of us who are working there, very excited to be in this area, very excited to be partnering with Jay and the National Center for Health Marketing. We think that's a critically important area for health care in the future and for public health, and we're very excited, too, about this presentation today and the speakers you're going to be hearing. So thanks very much.

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